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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/160,991	09/25/1998	TZYH-CHYANG CHERNG		6990

30743 7590 11/15/2007  
WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.  
11491 SUNSET HILLS ROAD  
SUITE 340  
RESTON, VA 20190

EXAMINER
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PAYER, HWEI SIU CHOU

ART UNIT	PAPER NUMBER
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3724

MAIL DATE	DELIVERY MODE
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11/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/160,991

Applicant(s)

CHERNG ET AL.

Examiner

Hwei-Siu C. Payer

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3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-15, 25, 26, 31, 38-44, 46 and 47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-15, 25, 26, 31, 38-44, 46 and 47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## Detailed Action

### Continued Examination Under 37 CFR 1.114

A request for contended examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on October 31, 2007 has been entered.

It is noted claim 13 is no longer a copied claim from claim 1 of U.S. Patent No. 5,855,149 because claim 13 requires the tube moving concurrently with and "radially spaced from" an axis of said laser beam, and the metal powder being delivered to the base is melted "by heat from said puddle". Such limitations are not in claim 1 of the '149 patent.

### Claims Rejection - 35 U.S.C. 112, first paragraph (new matter)

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-15, 25, 26, 31, 38-44, 46 and 47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(1) In claim 13, the limitation of "by heat from said puddle" (newly added in the 6-11-2007 amendment) has no support from the original specification.

(2) In claims 38 and 44, the limitation of "along a further area of said die body" (newly added in the 2-20-2007 amendment) has no support from the original specification.

#### **Claims Rejection - 35 U.S.C. 112, second paragraph**

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 46 and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) Claims 46 and 47 contradict claims 38 and 44, respectively. As required in claims 38 and 47, the blade material is applied to the puddle that is previously heated by the laser while continuously heating the die body along a further area of the die body. Thus, the area on which the laser beam impinges at any given time and the area to which the powder is supplied are not the same area. Therefore, the blade material feeder and the beam of the laser cannot be "coaxial" (i.e. having or mounted on a

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common axis) as claimed in claims 46 and 47 because the blade material feeder is at the location where the puddle is while the beam of the laser has already moved to a further area.

(2) In claim 47, line 1, "The method" has no clear antecedent basis. It is suggested "The method as in claim 44 wherein said applying step" be changed to --The cutting die as in claim 44 wherein said applying step of forming said cutting die--.

### Remarks

Claim 13 as amended in the 6-11-2007 amendment and claims 38 and 44 as amended in the 2-20-2007 amendment are intended to overcome the 103 rejection (Baker U.S. Patent no. 3,952,179 in view of Maybon U.S. Patent No. 5,580,472) in a manner that the area on which the laser beam impinges at any given time and the area to which the powder is supplied are not the same, and further the powder is melt by the puddle previously heated by the laser beam rather than melt directly by the heat from the laser beam. Examiner found no basis or support for the newly added limitations in those claims.

As clearly admitted on the record (note pages 1 and 2 under the heading "Remarks" in the amendment filed on 2-6-2002), the blade material is introduced into the heated area "**while heating said area**". Thus, the blade material is heated directly by the laser beam rather than by the puddle previously heated by the

laser beam as now claimed. Further, line 5 of original claim 10 recites **“introducing metal into said path while heating said path”**.

Further evidence can be found on page 16, lines 12-13 of the specification which states the invention includes a “laser which can locally melt die surface and powder”. Thus, it is clear that the laser melts the powder. Also, page 16 (at lines 19-21) of the original specification states “the heating source which is used to melt cladding material and die surface is not limited to lasers”. Thus, it is clear that the heating source melts the cladding material also.

Applicant alleges, at pages 11 and 12 of the amendment, the area to which the blade material powder is applied is not the identical area on which the laser beam impinges (as clearly illustrated in Figure 2) and without reference to the laser or laser position or reference to direct heating of the powder by the laser. Examiner disagrees. Fig. 2 merely shows a laser head 10 applying a laser beam to melt/puddle an area 17 of the die surface 13A and a powered feeder 16 delivering powder material 16A onto the melt/puddle area 17. Fig. 2 does not show the area 17 to which the powder material 16A applied is not the identical area on which the laser beam 17 impinges as Applicant alleges. On the contrary, from the limitation **“introducing metal into said path while heating said path”** (i.e. the same path/area) of original claim 10, it is perfectly clear that the area 17 to which the powder material 16A applied is indeed the identical area 17 on which the laser beam 17 impinges.

Applicant also argues, at page 13 of the amendment, the claim language “by heat from said puddle” and “along a further area of said die body” are well-supported by the understanding which would be conveyed to a person skilled in the art at the time the invention was made by the original disclosure. In response, as disclosed in the original disclosure (note the original claim 10) and as clearly admitted on the record (note pages 1 and 2 under the heading “Remarks” of the amendment filed on 2-6-2002), the blade material is introduced into the heated area “**while heating said area**”. Thus, the newly added limitations of “upon forming said puddle, applying a blade material in the form of a powder to said puddle while continuing said step of heating said die body along a further area of said die body corresponding to said path such that said powder is melted in said puddle” as claims 38 and 44 and “the metal powder being delivered to the base is melted by heat from said puddle” as in claim 13 directly contradict what is disclosed in the original disclosure.

Regarding the “coaxial” powder feeder as in claims 46 and 47, since the powder feeder is “coaxial” (i.e. having or mounted on a common axis) with the laser, the two have to move together to be “coaxial”. Therefore, the powder feeder cannot be still at where the puddle is while the laser has already moved to a further area as in claims 38 and 44.

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**Point of Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwei-Siu C. Payer whose telephone number is 571-272-4511. The examiner can normally be reached on Monday through Friday, 7:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for official communications and 571-273-4511 for proposed amendments.

H Payer  
November 9, 2007

/Hwei-Siu C. Payer/  
Primary Examiner, Art Unit 3724